**Capacity for Processing of beryllium Precision Components**

2729. SHRI V. RAJESHWAR RAO: Will the PRIME MINISTER be pleased to state:

(a) whether the country has the capacity for complete processing of Beryllium precision components;

(b) the names of other countries which can do this;

(c) what use these conponents are being put to; and

(d) what steps are being taken to make further advancement in this regard?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTION AND MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI YOGINDER K. ALAGH): (a) beryllium facilities of the Bhabha Atomic Research Centre (PARC) at Navi Mumbai have the capacity to process Beryl ore to produce vacuum not pressed Peryllium blocks and in machine these blocks to high precision components. These facilities cater to the needs of nuclear and space sciences. They also supply beryllium windows to Bharat Electronics Limited for their X-ray tubes.

(b) USA, the world leader in beryllium technclogy, processes the Mineral to produce hot pressed beryllium and finished precision componets.

European countries like the UK. France and Germany procure, the hot pressed beryllium from the USA and machine these to finished components. Russia and some of the East European countries are also well advanced in this field.

(c) The beryllium facilities produce high precision components required for the nuclear and space programmes, like components for rate integrated gyrcs, substracte for scan mirror, thruster brackets (for mounting booster rockets), neutron sources, x-ray windows, etc.

(d) The facilities are under augmentation to produce larger size beryllium components.

**Units under Nuclear Power Corporation**

2730. SHRI SOLIPETA RAMACHANDRA REDDY: Will the PRIME MINISTER be pleased to state:

(a) the number of units operating under the Nuclear Power Coporation and the total generation capacity thereof;

(b) the actual generation of powers, unit-wise; and

(c) the steps being taken/proposed to be taken to enhance the nuclear power generation in the country, in view of limited fossil stock?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI YOGINDER K. ALAGH): (a) and (b) Details of the operating units under Nuclear Power Corporation of India Ltd. with their present rated capacity and electricity generated upto 28.2.1997 are given below:—

| Sl. No. | Station/Unit | Present generation capacity MWs | Cumulative Electricity generated upto Feb., 97 (MUs.) |
|---|---|---|---|
| 1. | Tarapur Atomic Power Station—Unit—1 | 160 | 24180 |
| | Unit—2 | 160 | 24473 |

| Sl. No. | Station/Unit | Present generation capacity MWs | Cumulative Electricity generated upto Feb., 97 (MUs.) |
|---|---|---|---|
| 2. | Rajasthan Atomic | 100 | 8289 |
| | Power Station—Unit—1 | 200 | 15000 |
| | Unit—2 | | |
| 3. | Madras Atomic | 170 | 12654 |
| | Power Station—Unit—1 | 170 | 10322 |
| | Unit—2 | | |
| 4. | Marcra Atomic | 220 | 4539 |
| | Power Station—Unit—1 | 220 | 4504 |
| | Unit—2 | | |
| 5. | Kakrapar Atomic | 220 | 3615 |
| | Power Station—Unit—1 | 220 | 2258 |
| | Unit—2 | | |

(c) During the ninth plan period, the nuclear power projects currently under construction with a total capacity of 880 MWe, comprising Kaiga Atomic Power Project Unit-1&2 in Karnataka and Rajasthan Atomic Power Project Units-3&4) in Rajasthan are expected to be commissioned in 1998. IX plan proposals envisage commencement of construction of 2×500 MWe capacity units at Tarapur (TAPP-3&4) and 2×220 capacity Units at Kaiga (Kaiga-3&4). 2×1000 MWe Kudankulam Atomic Power Project in Tamilnadu in coporation with the Russian Federation and one Unit of 500 MWe Prototype Fast Breeder Reactor (PFER) are also contemplated.

**Atomic Research Centre at Kalpakkam**

2731. SHRIMATI RENUKA CHOWDHURY: Will the PRIME MINISTER be pleased to state:

(a) whether Atomic Research Centre at Kalpakkam has designed a fast breeder reactor for commissioning in 2007;

(b) if so, the reasons for the delay in commissioning the plant for producing electricity, in view of the acute shortage thereof;

(c) whether the Planning Commission has been approached to sanction funds for construction of the plant by the end of the Ninth Five Year Plan; and

(d) if so, the details thereof?

THE MINISTER OF STATE OF THE MINISTRY OF PLANNING AND PROGRAMME IMPLEMENTATION AND MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY (SHRI YOGINDRA K. ALAGH): (a) The detailed design of a 500 MWe (Mega Watt (Electrical) Prototype Fast Breeder Reactor (PFBR) is in an advanced stage of completion and technology development is also in progress at the Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam.

(b) to (d) The PFBR Project has been suggested for inclusion in the 9th Plan for possible sanction. Subject to allocation of adequate Plan outlay, the construction can start towards the end of the 9th Plan period.

**Super Conducting Cyclotron Project at Calcutta**

2732. SHRIMATI BASANTI SARMA:
DR. SHRIKANT RAM CHANDRA JICHKAR:

Will the PRIME MINISTER be pleased to state:

(a) whether the Super Conducting Cyclotron Project at Variable Energy Cyclotron Centre (VECC), Calcutta has became functional;

(b) if so, the details of the work being done by it;

(c) if not, the reason for delay; and